UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,149	05/11/2001	Steven Weil	MS1-747US	6784

22801 7590 04/28/2008

LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER	
RIES, LAURIE ANNE	

ART UNIT	PAPER NUMBER
2176	

MAIL DATE	DELIVERY MODE
04/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/854,149	WEIL ET AL.	
	Examiner	Art Unit	
	LAURIE RIES	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-19,21-26,28-43 and 45-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6* is/are allowed.

6)☒ Claim(s) *7-9,11-19,21-26,28-43 and 45-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Request for Continued Examination, filed 31 October 2007, to the Original Application, filed 11 May 2001.

2. Claims 1-9, 11-19, 21-26, 28-43, and 45-52 are pending. Claims 1, 7, 8, 9, 17, 18, 19, 23, 25, 26, 31, 32, 33, 40, 41, 42, 46, 47, 51, and 52 are independent claims.

Request for Continued Examination

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 October 2007 has been entered.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 7-8, 17-18, 23, 25, 31-32, 40-41, 46, and 51-52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Independent claims 7-8, 17-18, 23, 25, 31-32, 40-41, 46, and 51-52 are directed to a computer-readable medium or media that does not fall within a statutory category of invention, since the Instant Specification, at page 45, lines 7-10, describes the computer readable media as including both "computer storage media" and "communication media". The Instant Specification, at page 45, lines 19-25, and page 46, lines 1-3, further describes a "communication media" as including a carrier wave or modulated signal. A carrier wave or modulated signal has no physical structure and does not itself perform any useful, concrete and tangible result. As such, claims 7-8, 17-18, 23, 25, 31-32, 40-41, 46, and 51-52 are ineligible for patent protection because it does not fall within any of the four statutory categories of invention as defined by 35 U.S.C. 101.

The Office respectfully suggests amending claims 7-8, 17-18, 23, 25, 31-32, 40-41, 46, and 51-52 to read "a computer readable storage medium" in order to overcome the rejection under 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7-9, 11-19, 21-25, 42-43, 45-48, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1).

As per independent claims 9, 19, 42, 47, and 51, Smith discloses a method for facilitating enhanced readability of a fixed digital document, such as a PostScript document, said document having multiple pages, including obtaining the fixed digital document which cannot be modified using a character based application, such as a PostScript document, as described by Applicant's specification as an example of a fixed digital document (See Smith, Column 5, lines 47-50; see also Instant Specification, Page 4, lines 5-9 and Page 5, lines 4-6).

Smith also discloses paginating the multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses identifying and locating lines of text within the multiple pages of the fixed digital document (See Smith, Figure 3).

Smith also discloses determining a virtual page boundary (See Smith, Figure 3, Logical Page Breaks)

Smith also discloses adjusting the virtual page boundary so that the boundary is not the same as a line of text (See Smith, Figure 4).

While Smith shows a virtual page boundary coinciding with a line of text (See Smith, Figure 3, logical page break 2), Smith does not disclose expressly that the virtual page boundary has the same boundaries as the identified line of text.

Kelley discloses a virtual page break boundary having the same boundary as a line of text (See Kelley, Figure 6, and Column 7, lines 13-32).

Smith and Kelley are analogous art because they are from the same field of endeavor of enhancing the viewing of electronic documents.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the virtual page boundary coinciding with a line of text of Kelley with the adjustment of a virtual page boundary of Smith. The motivation for doing so would have been to display only entire lines of text on a virtual page on the screen which makes reading the text much more user friendly (See Kelley, Abstract). Therefore, it would have been obvious to combine Kelley with Smith for the benefit of displaying only entire lines of text on a virtual page on the screen to make reading the text much more user friendly to obtain the invention as specified in claims 1, 9, 19, 42, 47, and 51.

Independent claims 7 and 8 are rejected on the same basis as claim 1.

Independent claims 17 and 18 are rejected on the same basis as claim 9.

Dependent claim 48 is rejected on the same basis as claim 47.

As per dependent claim 14, Smith and Kelley disclose the limitations of claim 9 as described above. Smith also discloses displaying a virtual page of the multiple virtual pages and doing so without displaying overlap (See Smith Figure 4).

As per dependent claim 15, Smith and Kelley disclose the limitations of claim 9 as described above. Smith also discloses displaying virtual pages of the multiple virtual pages, where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages (See Smith, Column 4, lines 27-31).

As per dependent claims 16, 24, 43, and 50, Smith and Kelley disclose the limitations of claims 9, 19, 42, and 47 as described above. Smith also discloses that the paginating includes determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3,lines 13-26).

As per dependent claim 11, Smith and Kelley disclose the limitations of claim 9 as described above. Smith also discloses identifying and locating lines of text within the multiple pages of the digital document (See Smith, Figure 3).

Dependent claims 12-13 are rejected on the same basis as claim 9.

As per dependent claim 21, Smith and Kelley disclose the limitations of claim 19 as described above. Smith also discloses that the paginating includes separating the one or more pages of the digital document into multiple virtual pages without splitting lines of text of the document (See Smith, Figures 3 and 4).

As per dependent claim 22, Smith and Kelley disclose the limitations of claim 19 as described above. Smith also discloses identifying line of text within the digital

document and separating the one or more pages of the digital document into multiple virtual pages between lines of text (See Smith, Figures 3 and 4).

Independent claims 23 and 25 are rejected on the same basis as claim 19.

Dependent claim 45 is rejected on the same basis as claim 42.

Independent claim 46 is rejected on the same basis as claim 42.

6. Claims 33, 35, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Atkinson (U.S. Patent 4,622,545).

As per independent claim 33, Smith discloses a method for facilitating enhanced readability of a fixed digital document, including paginating multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses displaying one or more virtual pages of the multiple virtual pages (See Smith, Column 3, lines 15-20). Smith does not disclose expressly displaying one or more virtual pages of the multiple virtual pages with overlap on a virtual page, where the overlap of one virtual page includes content of the document repeated from another virtual page. Kelley discloses displaying one or more virtual pages of the multiple virtual pages with overlap on a virtual page, where the overlap of

one virtual page includes content of the document repeated from another virtual page (See Kelley, Figure 4, and Column 6, lines 60-62).

Smith also does not disclose expressly indicating overlap during the displaying, where the content of overlap is differentiated from other content. Atkinson discloses indicating overlap that is differentiated from other content. (See Atkinson, Figure 7, and Column 10, lines 19-36).

Smith, Kelley, and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the display of multiple virtual pages without overlap of Kelley with the method of facilitating enhanced readability of a fixed digital document of Smith. The motivation for doing so would have been to display only entire lines of text on a virtual page on the screen which makes reading the text much more user friendly (See Kelley, Abstract). Therefore, it would have been obvious to combine Kelley with Smith for the benefit of displaying only entire lines of text on a virtual page on the screen to make reading the text much more user friendly.

It also would have been obvious to a person of ordinary skill in the art to include the indication of overlapping data of Atkinson with the method and program for improving the readability of digital documents of Smith and Kelley. The motivation for doing so would have been to mask the regions of the data that are currently being displayed. (See Atkinson, Column 10, lines 37-40). Therefore, it would have been

obvious to combine Atkinson with Kelley and Warnock for the benefit of identifying lines of data already displayed to obtain the invention as specified in claim 33.

As per dependent claim 35, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith also discloses displaying virtual pages of the multiple virtual pages, where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages (See Smith, Column 4, lines 27-31).

As per dependent claim 39, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3, lines 13-26).

Dependent claims 40-41 are rejected on the same basis as claim 33.

7. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Warnock (U.S. Patent 5,634,064).

As per dependent claim 49, Smith and Kelley disclose the limitations of claim 47 as described above. Smith and Kelley do not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Smith, Kelley, and Warnock are analogous art because they are from the same

problem-solving area of displaying text online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith and Kelley. The motivation for doing so would have been to provide a visual indictor of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith and Kelley for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 49.

8. Claims 26, 28-32, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Warnock (U.S. Patent 5,634,064).

As per independent claim 26, Smith discloses a method for facilitating enhanced readability of a digital document, such as a PostScript document, including paginating the multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses displaying the virtual pages of the multiple virtual pages, where unrepeated content of a multiple virtual page starts at a common spatial position on the multiple virtual pages (See Smith, Column 3, lines 15-20).

Smith does not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24).

Smith and Warnock are analogous art because they are from the same problem-solving area of displaying text online.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith. The motivation for doing so would have been to provide a visual indictor of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 26.

Claim 52 is rejected on the same basis as claim 26.

As per dependent claim 28, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses that paginating includes separating the one or more pages of the digital document into multiple virtual pages without splitting lines of text of the document (See Smith, Figures 3 and 4).

As per dependent claim 29, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses identifying line of text within the digital document and separating the one or more pages of the digital document into multiple virtual pages between lines of text (See Smith, Figures 3 and 4).

As per dependent claim 30, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3, lines 13-26).

Dependent claims 31 and 32 are rejected on the same basis as claim 26.

9. Claims 34 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Atkinson (U.S. Patent 4,622,545) as applied to claim 33 above, and further in view of Warnock (U.S. Patent 5,634,064).

As per dependent claims 34 and 36, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley and Atkinson do not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Smith, Kelley, Atkinson, and Warnock are analogous art because they are from the same problem-solving area of displaying text online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith, Kelley, and Atkinson. The motivation for doing so would have been to provide a visual indictor of the next line of text to be read. (See Warnock, Column 9, lines 14-18).

Therefore, it would have been obvious to combine Warnock with Smith, Kelley, and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 34.

As per dependent claim 37, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley, and Atkinson do not disclose that the overlap is shaded. Warnock discloses that the overlap is shaded or highlighted in reverse video. (See Warnock, Column 9, lines 19-24). Smith, Kelley, Warnock and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the shading of Warnock with the method and program for improving the readability of digital documents of Smith, Kelley, and Atkinson. The motivation for doing so would have been to provide a visual indictor of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith, Kelley, and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 37.

10. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1), Kelley (U.S. Patent 6,694,485 B1), and Atkinson (U.S. Patent 4,622,545) as applied to claim 33 above, and further in view of Bereiter (U.S. Patent 5,909,217).

As per dependent claim 38, Smith, Kelley, and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley, and Atkinson do not disclose expressly that the overlap is grayed. Bereiter discloses graying out portions of overlap. (See Bereiter, Figure 3, and Column 4, lines 35-49). Smith, Kelley, Atkinson and Bereiter are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to including the graying out of overlapping data of Bereiter with the method and program for improving the readability of digital documents of Smith, Kelley, and Atkinson. The motivation for doing so would have been to help present the context of the non-grayed data. (See Bereiter, Column 4, lines 43-48). Therefore, it would have been obvious to combine Bereiter with Smith, Kelley, and Atkinson for the benefit of emphasizing the context of the page to obtain the invention as specified in claim 38.

Response to Arguments

11. Applicant's arguments filed 31 October 2007 have been fully considered but they are not persuasive.

Applicant argues on Page 14 of the Instant Amendment that Smith in view of Kelley fails to teach or suggest a fixed digital document, which is a document that cannot be modified using a character based application. The Office respectfully disagrees. Applicant's Instant Specification defines a fixed digital document as a document that cannot be simply modified using a character-based application (such as a word processor) (See Instant Specification, Page 4, lines 5-9). The Instant Specification further states that examples of formats of fixed documents that cannot be modified using a character based application include: Portable Document Format (PDF) and PostScript (See Instant Specification, Page 5, lines 4-6, emphasis added). Smith teaches that a document in a number of formats, in addition to an HTML data stream and including PostScript format, may be used in the system to render and calculate pagination information as taught by Smith (See Smith, Column 5, lines 47-50). Smith further teaches a rendering component used to resize or otherwise manipulate the PostScript document such that the data in the document is visible to the reader (See Smith, Column 5, lines 41-46). While Smith does not expressly state "obtaining" the PostScript document, it was well known in the art at the time of the invention that in order to paginate a document the document must first be available to the system

performing the pagination. It would have been obvious to one of ordinary skill in the art at the time of the invention to conclude that the system of Smith had obtained the PostScript document, providing the benefit of allowing the pagination rendering and calculation functions to be performed such that the data in the document was visible to the reader.

Allowable Subject Matter

12. Claims 1-6 are allowed.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurie Ries whose telephone number is (571) 272-4095. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton, can be reached at (571) 272-4137.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laurie Ries/
Patent Examiner
Technology Center 2100
20 April 2008